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INDUSTRIAL ORGANIZATION AND MANAGEMENT

Oct./Nov. 2021

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN MECHANICAL ENGINEERING
(PRODUCTION OPTION)
(PLANT OPTION)**

**DIPLOMA IN AUTOMOTIVE ENGINEERING
DIPLOMA IN WELDING AND FABRICATION
DIPLOMA IN CONSTRUCTION PLANT ENGINEERING**

MODULE II

INDUSTRIAL ORGANIZATION AND MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Non-programmable scientific calculator.

Answer FIVE of the following EIGHT questions.

All questions carry equal marks.

Maximum marks for each part of a question are as shown.

Candidates should answer the questions in English.

This paper consists of 3 printed pages.

**Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.**

1. (a) Explain each of the following principles of management as proposed by Henri Fayol.
- (i) co-ordination;
 - (ii) planning;
 - (iii) organizing.
- (6 marks)
- (b) Explain **five** benefits of delegation of authority in an organization. (10 marks)
- (c) Outline **four** disadvantages of an open plan office. (4 marks)
2. (a) Explain **three** benefits of elasticity of demand for a product. (6 marks)
- (b) Explain **four** activities carried out in a preventive maintenance system. (8 marks)
- (c) Highlight **six** uses of an organization chart. (6 marks)
3. (a) Explain each of the following recording techniques used in work study:
- (i) flow process chart;
 - (ii) string diagram.
- (4 marks)
- (b) Explain each of the following types of stock-taking:
- (i) perpetual inventory;
 - (ii) periodic inventory.
- (4 marks)
- (c) Explain **four** factors that determine the stock level in an organization. (8 marks)
- (d) Outline **four** factors that may determine wage levels in an organization (4 marks)
4. (a) Highlight **four** benefits of adopting the method study in a factory. (4 marks)
- (b) Explain each of the following terms as used in production planning:
- (i) master schedule;
 - (ii) shop schedule.
- (4 marks)

- (c) A time study of a job operation involves four elements: A, B, C and D as shown in Table I. The operation was studied over five cycles which are recorded in minutes.

Table I

ELEMENT	CYCLES				
	1	2	3	4	5
A	2.0	2.1	2.2	2.4	2.8
B	2.6	2.1	2.4	2.6	2.2
C	4.2	4.8	5.2	5.0	5.4
D	2.6	2.1	2.4	2.8	3.0

Additional information:

- element C is a machine element;
- performance rating is 115 and standard rating is 100;
- total allowance is 18%.

Determine the:

- basic time for the entire job;
- standard time.

(5) (a) Explain each of the following terms as used in work measurement:

- performance rating;
- qualified worker.

(b) Explain five requirements of a good plant layout.

(c) An organization has an annual demand of 85,000 kgs for a certain material. The cost price per kilogram is Ksh 4,200 and the stock hold cost is 16% per annum of the stock value. Delivery cost per lot is Ksh 8,000.

Calculate the:

- economic order quantity (EOQ);
- number of orders made in a year.

$$\sqrt{\frac{QCO}{I}} = e = 85000 \quad (6 \text{ marks})$$

$$I = 4200 \times \frac{16}{100}$$

$$\sqrt{\frac{85000 \times 2 \times 8000}{4200 \times \frac{16}{100}}} = \text{Turn over} = \text{Ksh} =$$

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→ Promotion
→ Marketing
→ Distribution

6. (a) (i) Highlight **four** measures that a manager may take to minimize industrial disputes in an organization.
- (ii) Outline **four** disadvantages of internal sources of labour in an organization. (8 marks)
- (b) Explain **four** limitations of Management by Objectives (MBO). (8 marks)
- (c) List **four** benefits of office automation to an organization. (4 marks)

→ may deny
→ no need bleed

7. (a) Outline **four** barriers to effective decision making by a manager in an organization. (4 marks)
- (b) Explain the following types of costs incurred in a company:

- Misunderstanding from transfer to the workers
- Lack of confidence in making their own decision
- Short tempered
- Lack of understanding

- (i) variable; -
 (ii) marginal; - It is the initial cost the company have for the cost in the company.
 (iii) prime. - It is a cost from direct expenses of direct labour in the company. (6 marks)

(c) A manufacturing firm incurred a fixed cost of Ksh.18,000. The variable cost per unit was Ksh.80 and the selling price was Ksh.130. Calculate the break even level of output. (4 marks)

$$B = \frac{F}{P - V} = \frac{18000}{130 - 80}$$

(d) Explain **three** challenges that may be associated with breakdown maintenance in a factory. (6 marks)

Low production cost - with breakdown maintenance the cost of breakdown may be too low to attract attention by the production cost to managers.

(a) Explain **four** difficulties encountered when computing the National income. (8 marks)

(b) Outline **four** features of a good performance appraisal system. (4 marks)

(c) Outline **four** reasons for carrying out manpower planning in an industrial organization. (4 marks)

(d) List **four** elements of stock control. (4 marks)

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